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ABSTRACT

This is one of a series of monographs providing information about the Delaware Model: A Systems Approach to Science Education (Del Mod System). The State Department of Public Instruction is the agency that represents the public schools of Delaware. The two branches of the state department with which Del Mod interacts are the Instructional Services Branch and the Auxiliary Services Branch, acting as service centers for school districts and areas of development and program evaluation, teacher certification, federal funding, needs assessment, pupil testing, research, and general supervisory assistance in areas of inservice education. The proposed plan of activities for the State Department of Public Instruction is briefly described as related to each of the above mentioned tasks. (EB)

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THE ROLE OF THE STATE DEPARTMENT OF PUBLIC INSTRUCTION IN THE DEL MOD SYSTEM

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THE ROLE OF THE STATE DEPARTMENT OF PUBLIC INSTRUCTION IN THE DEL MOD SYSTEM

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THE ROLE OF THE STATE DEPARTMENT OF PUBLIC INSTRUCTION IN THE DEL MOD SYSTEM

The State Department of Public Instruction is the agency that represents the public schools of Delaware. In this capacity its function is distinctive from that of the other Del Mod components; that is, Delaware State College, Delaware Technical Community College, and the University of Delaware. The two branches of the State Department of Public Instruction with which Del Mod interacts are the Instructional Services Branch and the Auxiliary Services Branch. These branches act as resource and service centers for school districts and areas of development and program evaluation, teacher certification, federal funding, needs assessment, pupil testing, research, and general supervisory assistance in the areas of inservice education. The local school districts in Delaware maintain a degree of autonomy over curriculum development implementation and teacher hiring. Autonomy is a key concept of this discussion because the Del Mod System is not only aware of the districts' rights and privileges and the State Department of Public Instruction's rights and privileges, but respects the concerns of each. One of the conditions under which Del Mod System operates is the fact that each component of the system has its own autonomous function and with each there are divisions of power and of responsibility.

What is the current role of the State Department of Public Instruction in the Del Mod System? The State Department of Public Instruction developed its role in the Del Mod System based on three distinct and different points of view. First, the State Department of Public Instruction personnel believed that Del Mod would assume all of the traditional Department of Public Instruction science education functions. The second lies in the definition of the traditional Department of Public Instruction function. The State Department of Public Instruction has the tradition of providing services in the instructional leadership without impinging on the local school district autonomy. This can be done and the local school districts need not be offended by the State Department of Public Instruction's role change. Third, is in the organization of the Department of Public Instruction in relation to the structure of the counties in the State. For the Department to accommodate this system's approach to any educational problem, it would have to operate as a system internally. Within its current framework the Department has the personnel to conduct needs assessment and to measure student achievement and attitudes in science and mathematics on a state wide basis. These assessments are a necessity because (a) no other component can do them, and (b) they have never been done in any allowable systematic fashion.

Since the children of Delaware stand to gain from Del Mod projects, and regardless of the component conducting the project, the responsibility for dissemination of the results of the Del Mod Program would be an ideal role for the State Department of Public Instruction.

State Department of Public Instruction's Role in Assessment of Needs

Definition of Needs Assessment

Definition of needs assessment for purposes of this document:

The identification of science and mathematics education needs, resources, and information as an out-growth of the general educational needs.

Criteria for assessment of impact on teachers and students and/or the condition of the science and mathematics education in the state.

The establishing of criteria for science and mathematics for implementation and the setting of priorities based on this criteria.

The development of the behavioral-based objectives criteria and evaluation scheme for science and mathematics.

Activities for Need Assessment

The activities to be undertaken under the direction of Del Mod Component Coordinator provides direction for the following planning activities which will result in the best utilization of the Del Mod System activities with teachers and schools:

Identification of Needs:

The identification of science-mathematics education needs in Delaware by:

Soliciting opinions and information as to need from individuals and groups such as those already involved in science-mathematics activities, experts in the field of science-mathematics education, teachers, students, and lay citizen representatives from all age, social, economic, ethnic, and geographical areas of the state.

Collecting information, data, statistics, and projections on population growth and development within the State.

Establishing criteria for the degreee of need based upon the levels of citizen awareness and the amount of instruction, action, and follow up which is determined to be present.

Categorizing and prioritizing needs based on a compilation of the results of the above steps.

Documenting and publishing a list of needs identified.

Coordinating these needs and/or priorities with other components of Del Mod.

Location of Resources:

The location of science-mathematics educaton resources in terms of curriculum, materials, facilities, funds, personnel, and programs by:

Soliciting opinions and information as to need from individuals and groups such as those already involved in science-mathematics activities, experts in the field of science-mathematics education, teachers, students, and lay citizen representatives from all age, social, economic, ethnic, and geographic areas of the state.

Collecting information, data, statistics, and projections on population growth and development within the state.

Assessing these resources in terms of their apparent effectiveness and/or usefulness in helping to meet the needs identified and to achieve the science-mathematics goals of awareness, instruction, action, and feedback.

Compiling and documenting lists of all science-mathematics resources in Delaware.

Priority Development

1. The development of a dynamic and comprehensive priorities for science-mathematics education in Delaware in terms of programs and activities by:

Determining which programs and activities are already in existence, what needs they are attempting to meet, how successful they are in meeting those needs, and how successful they are in achieving the goals of awareness, education, action, and follow up among teachers, students, administrators, and genreal public.

Determining what kinds of programs and activities should be developed to meet needs not yet being met.

Determining which programs and activities can exist on available resources, which ones require outside resources, and which ones require some of both.

Suggesting which resources are available and most suited in assisting programs and activities to meet their goals.

Suggesting ideas based upon the research for approaches, methodology, and organization for efficient and effective program operation.

Suggesting ways in which Del Mod can serve to coordinate the programs and activities in order to provide greater coherence, continuity, and support for meeting needs on a statewide basis.

Documenting the results of the above effort.

2. The development of a priority list of programs by:

Determining the relative value of which programs and activities--past, present, and future--meet the statewide science-mathematics education needs, goals, and objectives.

Seeking information and opinions from groups and individuals representing all spheres of education and non-education interests, all aspects of the Delaware society, and all geographical areas within the state, as to which programs they feel should have priority, and why.

Establishing criteria for selection of priority programs based on need, availability, resources, support, sources of funds, timing, value as a pilot program, project, and probability of achieving the overall goals of awareness, instruction, action, and follow up.

Selecting (or recommending the selection of) priority programs based on available data and information and against the criteria established.

Documenting, publishing, and circulating the results of the selection.

Evaluation - Feedback System

The development and operation of a dynamic and continuous evaluation-feedback system by:

Establishing acceptable evidence for the awareness, education, action and follow up as a criterion for assessing the effectiveness of science-mathematics education programs and activities.

Developing a vehicle for implementing assessment and evaluation procedures and giving and receiving of feedback.

Drawing up a time schedule for administering periodic student testing.

Reporting the results of assessment and evaluation activities and suggesting ways to reinforce worthwhile science-mathematics efforts or plotting new courses of action.

Clearinghouse Service

The establishment and operation of a clearinghouse service for the bringing together of areas of need with the appropriate resources or agencies by:

Maintaining a complete, up-to-date file on the nature and details of all available resources and programs both in Delaware and elsewhere in the nation.

Wherever possible, providing references to those with needs by making available lists of names of individuals in programs, relevant materials and resources, and technical data and assistance.

Making suggestions to those with needs as to which resources are most valuable for their purposes and how they can most efficiently be used.

Implimentation

The above activities will require that the following steps be taken:

The designation and employment of an operational clerical staff.

The development of an information and opinion gathering system by calling together groups and individuals to meetings or conferences;

individual interviews and contacts in person by letter or telephone; public opinion polls conducted through news media or by mail; travel to all parts of the state to collect and verify information concerning science-mathematics education conditions, programs, activities, and provide open channels of communications into Del Mod.

The development of an information dissemination system by publishing results of research, progress of reporting, presentations by staff members at meeting, and through the feedback reporting of the results of evaluatons and assessments to the administrators, teachers and public through newsletters, newspapers, and media of radio and television.

The provision of logistical resources and materials such as meeting places, telephones, clerical equipment and supplies, reproduction equipment and supplies.

Utilization of Needs Activities

The need for these activities in the continuing development of the science-mathematics education program:

1. Insure the broad base of support throughout the state and among groups and individuals of all ages and special areas of interest by continually maintaining channels of open communication. This kind of support is necessary if a comprehensive, statewide effort in science-mathematics is to be successful.

2. Provide comprehensive and state recognition and public-private support for local models by clearly defining the support and coordination activities that can be provided by state, regional, national and other organizations.

3. Keep Del Mod informed and sensitive to community needs by maintaining a flow of communication from and to the state's education and non-education citizens.

4. Provide the statewide science-mathematics program with a centralized clearinghouse of information which will lend coherence and coordination to the various programs in operation.

5. Provide guidelines for the approaches, directions, and operations needed for the achievement of the overall goals of awareness, instruction, action, and follow up among the education and non-education groups in the state.

6. Through its geographical organization, it will draw the various geographical regions of the state into a cooperative venture and enable them to serve as a relevant base for planning and implementing science-mathematics programs and activities.

7. Insure the most efficient and optimum use of available resources through a continuous process of inventory taking and establishing criteria for assessment.

State Department of Public Instruction's Role in Dissemination

Under the direction of the Del Mod Component Coordinator of the State Department of Public Instruction (the State Science Supervisor), a plan of dissemination shall be coordinated on a state wide and national basis.

a. Series of town meetings to be provided at the Resource Centers to acquaint administrators, teachers, and public as to the needs and programs for science-mathematics education as related through the Del Mod System.

b. Series of workshops to be provided at the Resource Centers to acquaint administrators, teachers, and public as to the needs and programs for science-mathematics education as related through the Del Mod System.

c. Series of workshops to be provided at the Resource Centers for administrators as to the trends and program development in science-mathematics education e.g. in depth acquaintance with the various alphabet programs.

d. Developing news releases on science and mathematics programs as related to Del Mod for newspapers, magazines, radio, and television.

e. Development of newsletters to be disseminated to science-mathematics education community to acquaint educators with pertinent information regarding professional development and resources available.

f. Provide for summary of key articles in educational journals as related to science and mathematics education in a form of quarterly abstracts.

g. Coordinate between the various professional associations at the statewide level to eliminate duplication of efforts and conflict of

activities as well as to acquaint the association with what the Del Mod activities are.

h. Provide for periodic fliers dealing with activities of the Resource Centers and other key aspects of the Del Mod program.

The State Department of Public Instruction's Role as Facilitator for Del Mod Programs

The State Department of Public Instruction's Component Coordinator serves as facilitation agency for Field Agent programs into school districts but not the actural implementor of Field Agent programs. The Component Coordinator also works to introduce school districts to the science and mathematics programs offered by the colleges and universities.

Proposed Plan of Activities

The State Department of Public Instruction assumes the responsibility for: (1) assessment of needs, (2) coordination with federal programs, (3) dissemination of information, (4) facilitation of the the project's activities of the othr components of the Del Mod System into the schools of Delaware, and (5) a service agency to the educational and non-educational community on a statewide basis.

The Component Coordinator of the Del Mod System for the Department of Public Instruction has been currently designated as the State Supervisor of Science and Environmental Education. The basic function of the supervisor is the improvemcnt of the teacher-student learning situation in science environmental education for Delaware. For the supervisor to personally carry out each of the five activities would be herculean, thus in cooperation with the Del Mod project director a specialist is engaged to carry out the roles as described. For dissemination and needs assessment the Department of Public Instruction Component Coordinator serves as the individual responsible for overseeing the activities of the specialist.

The State Department of Public Instruction Component Coordinator devotes 50 percent of his time to the Del Mod System.